Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Flexible Use in Mid-Band Spectrum	)	GN Docket No. 17-183
Between 3.7 and 24 GHz	)	

REPLY COMMENTS OF INDOTRAQ LLC

I. INTRODUCTION

Indotraq LLC ("Indotraq") provides the below reply comments to *the Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz Notice of Inquiry* adopted by the Commission on 8 August 2017 (the "NOI").

Indotraq builds tracking technology and solutions that monitor precise motion (+-5mm) in three dimensions. Indotraq enables lots of applications that would not be possible without Impulse-Radio Ultra-Wideband (IR-UWB) technology.

II. USE OF BAND 3.7 – 4.2 GHZ & BAND 5.925-7.125 GHZ FOR LOCATION BASED ACTIVITIES

Indotraq uses Impulse-Radio Ultra-Wideband (IR-UWB) with approximately 500 Mhz bandwidth in the bands of 3.7 – 4.2 GHZ and 5.925-7.125 GHZ to precisely locate people and objects. The wide bandwidth is required to obtain precision wireless distance measurements. This precision cannot be achieved with other narrow band wireless technologies.

Indotraq uses IR-UWB technology in the following markets:

- Location Based Services - Safety
    - First Responders
- Healthcare – Hospitals
    - Real time asset, Patient, Staff Tracking
    - Work flow analysis and management
- Wearables
    - Safety / Medical
    - Activity Trackers
- Virtual Reality / Augmented Reality
    - Mobile Games – full immersion, walk around freely
    - Training simulations**:** Military, Sports, High risk activities
- Consumer Engagement
    - Virtual Shopping / Showrooms (Car)
    - Virtual Events / Advertising
- Entertainment and Production
    - Motion capture and tracking, immersive content
    - Automation of lighting and cameras
- Athlete Tracking and Analytics Technology
    - Training simulation, wearable tracking technology
    - Performance capture, monitoring and analysis
    - Track player health and safety
- Motion / Position Based Analytics
    - Real time work flow analysis, Deep Learning

All of these applications require wireless precision motion tracking to work properly. The IR-UWB technology used is required to operate under the -41.3 dBM/Mhz limit. New narrow band transmitters operating above this level will no longer allow IR-UWB technology to function due to high level interference. Currently this IR-UWB technology works well along with existing narrow band transmitters at 2.4Ghz and below as well as narrow band transmitters at approximately 5Ghz.

III. CONCLUSION

Indotraq has developed precision wireless tracking solutions using IR-UWB for a lot of markets where no other narrow band wireless technology will work. Allowing high power narrow band transmitters in the bands of 3.7-4.2 GHZ and 5.925-7.125 GHZ will not allow IR-UWB technology to function properly.

Respectfully Submitted,
IndoTraq LLC

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